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EXAMINER

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ART UNIT	PAPER NUMBER
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2631

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/451,208

Applicant(s)

RAITH ET AL.

Examiner

Pankaj Kumar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17, 19-26, 30-40, 42-46, 51-60 and 62-65 is/are rejected.
- 7) ☒ Claim(s) 16, 18, 27-29, 41, 47-50 and 61 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 64 is objected to because of the following informalities: Claim 64 line 3 should read "based on at least ..." but instead reads "based on a least". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 5, 12, 64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. In claim 5, the term "ARQ" should be defined in the claims at least once as automatic repeat request.
5. Claim 12 is narrative in form and does not contain positively recited steps of a specific process. Note that method claims should set forth a series of steps in the active tense in an instruction like manner thereby reciting an actual method. Dependent claims should further limit the claims by reciting additional steps in a likewise fashion. *ExParte Erlich* 3USPQ2d 1011 at 1017[6]. Steps should not be written with the word "or".
6. In claim 64, it is unclear whether or not the phrase "an extent to which a previously received signal was decoded" is being used to decode the received signal and whether it is part of the "a[t] least one of" list.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 1-15, 17, 19-26, 30-40, 42-46, 51-60, 62-65 are rejected under 35 U.S.C. 102(e) as being anticipated by Burshtein USPN 6112325.

9. As per claim 1, a method of processing a signal (Burshtein fig. 8) representing information coded according to a code selected from a set of codes (Burshtein fig. 8 “different rates i”; fig. 12: “rates 120, 2400, and 9600”), the method comprising the steps of receiving the signal at a first station (Burshtein fig. 8: 350); decoding the received signal according to respective codes of the set of codes (Burshtein fig. 8: 352) to generate respective likelihood metrics associated with respective codes of the set of codes (Burshtein fig. 8: 354); selecting a code from the set of codes based on the respective likelihood metrics (Burshtein fig. 8: 356), wherein the selection of the code from the set of codes is biased based on a prior communication between the first station (Burshtein fig. 5: 112) and a second station (Burshtein fig. 5: 102, 104,

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106, 108, 110) that transmitted the signal (Burshtein fig. 5: 112 selects the rate based on a prior communication between first and second in which the encoded signal and the best rate information came in from the first station to the second station; col. 19 lines 33 to 38; col. 1 lines 58-61); and decoding the received signal according to the selected code to generate an estimate of the information (Burshtein fig. 8: 358).

10. As per claim 2, a method according to Claim 1, wherein said step of selecting a code from the set of codes (Burshtein fig. 6: 156) is preceded by the step of generating a measure of quality for a channel (Burshtein fig. 6: 154) over which the signal is communicated based on a communication between the first and second stations; and wherein said step of selecting a code from the set of codes comprises the step of biasing the selection of a code from the set of codes based on the generated measure of channel quality (Burshtein fig. 6: 156 teaches that selection is based on quality).

11. As per claim 3, a method according to Claim 2, wherein said step of generating a measure of channel quality comprises the step of determining at least one of an error indication, a CRC check result, an error rate estimate, and a signal to noise ratio (Burshtein fig. 4: 704 "... data power information of the current received frame with respect to previous frames thereby determining a quality value for each rate ...").

12. As per claim 4, a method according to Claim 1, wherein said step of selecting a code from the set of codes (Burshtein col. 19: lines 33-35: selecting the best rate from the set of rates) is preceded by the step of communicating a communications status report (Burshtein col. 19: 29-32 "... detects best quality value thereby selecting the rate ...") between the first (Burshtein fig. 5: 112) and second stations (Burshtein fig. 5: 102, 104, 106, 108, 110)); and wherein said step of

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selecting a code from the set of codes comprises the step of biasing a selection of a code from the set of codes based on the communications status report (Burshtein col. 19 lines 26-38; fig. 5: 112 essentially selects the code by selecting the rate from the set of rates which it is instructed to do by 110 and thus 112 is biased by the report received from 110).

13. As per claim 5, a method according to Claim 4, wherein said step of communicating a communications status report comprises the step of communicating an ARQ status message between the first and second stations (Burshtein "If the erasure detection unit does not allow the frame according to the selected rate, then, the controller selects the next best encoded signal quality value and the device repeats decoding and erasure detecting according to the current rate.").

14. As per claim 6, a method according to Claim 1, wherein said step of selecting a code from the set of codes comprises the steps of: determining a state of a communications transaction between the first and second stations (Burshtein col. 19: 29-32 "... detects best quality value thereby selecting the rate ..."); and biasing a selection of a code from the set of codes based on the determined state of the communications transaction (Burshtein col. 19 lines 26-38; fig. 5: 112 essentially selects the code by selecting the rate from the set of rates which it is instructed to do by 110 and thus 112 is biased by the report received from 110).

15. As per claim 7, a method according to Claim 2, wherein said step of decoding the received signal according to respective codes of the set of codes to generate respective likelihood metrics associated with respective codes of the set of codes is preceded by the steps of; receiving a first signal; and decoding the received first signal according to a first code of the set of codes to generate an estimate of information represented by the previously transmitted signal; wherein

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said step of receiving a signal comprises the step of receiving a second signal; wherein said step of decoding the received signal according to respective codes of the set of codes to generate respective likelihood metrics associated with respective codes of the set of codes comprise the step of decoding the received second signal according to respective codes of the set of codes to generate respective likelihood metrics associated with respective codes of the set of codes; and wherein said step of selecting a code from the set of codes comprises the step of biasing a selection of a code from the set of codes based on the first code used to decode the received first signal. (Claim 7 is discussed above in light of the fact that the first signal will be processed with the steps in claim 7 which are the same as the steps for processing a second signal which are discussed prior to claim 7. Burshtein will inherently process many signals since it was not designed to process just one signal and then stop working)

16. As per claim 8, a method according to Claim 7, wherein said step of decoding the received first signal according to one of the codes of the set of codes is followed by the step of determining validity (Burshtein fig. 6: 154: equivalent to quality) of the generated estimate of the information represented by the first signal; and wherein said step of biasing a selection of a code from the set of codes based on the first code used to decode the previously transmitted signal comprises the step of biasing the selection of the code from the set of codes based on the determined validity of the generated estimate of the information represented by the first signal (Burshtein fig. 6: 156 teaches that selection is based on quality).

17. As per claim 9, a method according to Claim 8, wherein said step of determining validity of the generated estimate of the information represented by the first signal comprises the step of performing a CRC check on the generated estimate of the information represented by the first

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signal. (Burshtein paragraph 29: "In cases where the encoded frame can include CRC information, the rate detection device further includes a decoded signal quality estimator which is connected before the encoded signal quality estimators, for pre-processing the encoded signal frame according to a predetermined one of the plurality of rates.")

18. As per claim 10, a method according to Claim 1, wherein the signal represents a first field (non-crc bits) and a second field (crc bits), wherein the first field is coded according to a code selected from a set of codes and the second field indicates the code applied to the first field (inherent for data with crc bits to have crc bits be the second field to indicate the code applied to the first field), and: wherein said step of selecting a code from the set of codes based on the respective likelihood metrics comprises the steps of: processing the received signal to generate an estimate of the second field (Burshtein col. 6 lines 36 to 38: processes the crc and non-crc bits); and selecting a code from the set of codes based on the respective likelihood metrics (Burshtein fig. 8: 356) and the generated estimate of the second field (Burshtein "... repeating the step of processing ... when failing to correctly decode ..."); and wherein said step of decoding the received signal according to the selected code comprises the step of decoding the received signal according to the selected code to generate an estimate of the first field (Burshtein col. 6 lines 36 to 42).

19. As per claim 11, a method according to Claim 1, wherein a respective code of the set of codes comprises a respective combination of a modulation code (Burshtein "The complex output signal, which is a result of the multiplication, is then QPSK modulated and transmitted to the channel.") and a channel code (Burshtein: different rates are the channel codes).



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20. As per claim 12, a method of processing a signal representing a first field and a second field, wherein the first field is coded according to a code selected from a set of codes and the second field indicates the code applied to the first field, the method comprising the steps of: receiving the signal at a first station; processing the received signal to generate an estimate of the second field; choosing to perform one of the following steps to identify the code applied to the first field, based on a confidence in the generated estimate of the second field: identifying the code applied to the first field based solely on the generated estimate of the second field (Burshtein col. 6 lines 36-38: with CRC does decoding at one rate); or identifying the code applied to the first field based on the generated estimate of the second field and respective likelihood metrics associated with decoding the received signal according to respective codes of the set of codes (Burshtein col. 6 lines 47 to 60); and decoding the received signal according to the identified code to produce an estimate of the first field. (remainder discussed in respect to other claims)

21. As per claim 13, a method according to Claim 12, wherein said step of identifying the code applied to the first field based on the generated estimate of the second field and respective likelihood metrics associated with decoding the received signal according to respective codes of the set of codes comprises the steps of: decoding the received signal according to respective codes of the set of codes; and generating respective likelihood metrics for the respective decodings of the received signal according to the respective codes of the set of codes. (discussed above)

22. As per claim 14, a method according to Claim 13, wherein said step of decoding the received signal according to respective codes of the set of codes comprises the step of decoding

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the received signal according to respective codes of the set of codes to an extent that is determined based on a confidence in the generated estimate of the second field. (Burshtein col. 6 lines 36-39: confidence equivalent to quality)

23. As per claim 15, a method according to Claim 13, wherein said step of decoding the received signal according to respective codes of the set of codes comprises the step of decoding the received signal according to respective codes of the set of codes to an extent that is determined based on prior communication between the first station and a second station that transmitted the signal. (discussed above)

24. As per claim 17, a method according to Claim 12, wherein said step of identifying the code applied to the first field based on the generated estimate of the second field and respective likelihood metrics associated with decoding the received signal according to respective codes of the set of codes comprises the step of biasing a selection of a code from the set of codes based on prior communication between the first station and a second station that transmitted the signal. (discussed above)

25. As per claim 19, a method according to Claim 12, wherein the first field is coded according to a channel code of a set of channel codes and is modulated according to a modulation code of a set of modulation codes (Burshtein col. 6 lines 36 to 60: crc determines if the data is accurate and thus inherently determines if the modulation code is correct while the decoding checks to determine if the rate is correct), wherein the second field indicates the channel code and the modulation code applied to the first field, and wherein said step of identifying the code applied to the first field based on the generated estimate of the second field and respective likelihood metrics associated with decoding the received signal according to

respective codes of the set of codes comprises the steps of: generating respective likelihood metrics associated with demodulating and decoding the received signal according to respective combinations of ones of the set of modulation codes and ones of the set of channel codes; and identifying the channel code and the modulation code applied to the first field based on the generated estimate of the second field and the generated likelihood metrics (remainder discussed in respect to other claims).

26. As per claim 20, a method according to Claim 12, wherein the first field is coded according to a channel code of a set of channel codes and is modulated according to a modulation code of a set of modulation codes (Burshtein only indicates QPSK modulation code but inherent for other modulation codes to exist), wherein the second field indicates the channel code and the modulation code applied to the first field, and wherein said step of identifying the code applied to the first field based on the generated estimate of the second field and respective likelihood metrics associated with decoding the received signal according to respective codes of the set of codes comprises the steps of: generating respective likelihood metrics associated with demodulating the received signal according to respective modulation codes of the set of modulation codes; identifying the modulation code applied to the first field based on the generated estimate of the second field and the generated likelihood metrics associated with demodulating the received signal according to respective modulation codes of the set of modulation codes; demodulating the received signal according to the determined modulation code; generating respective likelihood metrics associated with decoding the demodulated signal according to respective channel codes of the set of channel codes; and identifying the channel code applied to the first field based on the generated estimate of the second field and the

generated respective likelihood metrics associated with decoding the demodulated signal according to respective channel codes of the set of channel codes (remainder discussed in respect to other claims).

27. As per claim 21, a method of processing a signal representing information coded according to a code selected from a set of codes, the method comprising the steps of: receiving the signal at a first station; determining an extent to which to decode the received signal based on a prior communication between the first station and a second station that transmitted the signal; decoding the received signal according to respective codes of the set of codes to the determined extent to generate respective likelihood metrics associated with respective codes of the set of codes; selecting a code from the set of codes based on the respective likelihood metrics; and decoding the received signal according to the selected code to generate an estimate of the information (discussed in respect to other claims).

28. As per claim 22, a method according to Claim 21, wherein said step of determining an extent comprises the steps of generating a measure of quality for a channel over which the signal is communicated; and determining the extent to which to decode the received signal based on the generated measure of channel quality (discussed in respect to other claims).

29. As per claim 23, a method according to Claim 22, wherein said step of generating a measure of channel quality comprises the step of generating at least one of an error indication, a CRC check result, an error rate estimate, and a signal to noise ratio estimate (discussed in respect to other claims).

30. As per claim 24, a method according to Claim 21, wherein said step of determining an extent to which to decode the received signal comprises the steps of: communicating a

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communications status report between the first and second stations; and determining the extent to which to decode the received signal based on the communications status report (discussed in respect to other claims).

31. As per claim 25, a method according to Claim 24, wherein said step of communicating a communications status report comprises the step of communicating an ARQ status message between the first and second stations (discussed in respect to other claims).

32. As per claim 26, a method according to Claim 21, wherein said step of determining an extent to which to decode the received signal comprises the steps of: determining a state of a communications transaction between the first and second stations; and determining the extent to which to decode the received signal based on the determined state of the communications transaction (discussed in respect to other claims).

33. As per claim 30, a method according to Claim 21, wherein the signal represents a first field and a second field, wherein the first field is coded according to a code selected from a set of codes and the second field indicates the code applied to the first field, and: wherein said step of determining an extent to which to decode the received signal comprises the steps of: processing the received signal to generate an estimate of the second field; and determining the extent to which to decode the received signal based on a confidence in the generated estimate of the second field; and wherein said step of decoding the received signal according to the selected code to generate an estimate of the information comprises the step of decoding the received signal according to the selected code to generate an estimate of the first field (discussed in respect to other claims).

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34. As per claim 31, a wireless station, comprising: receiver that receives a signal representing information coded according to a code selected from a set of codes, that decodes the received signal according to respective codes of the set of codes to generate respective likelihood metrics associated with respective codes of the set of codes and that selects a code from the set of codes based on the respective likelihood metrics, and that decodes the received signal according to the selected code to generate an estimate of the information, wherein the selection of the code from the set of codes is biased based on prior communication between the wireless station and a station that transmitted the signal (discussed in respect to other claims).

35. As per claim 32, a wireless station according to Claim 31, wherein said receiver comprises: a code selector circuit that decodes the received signal according to respective codes of the set of codes to generate respective likelihood metrics associated with respective codes of the set of codes and that selects a code from the set of codes based on the respective likelihood metrics, wherein the selection of the code from the set of codes is biased based on a prior communication between the wireless station and the station that transmitted the signal; and a variable decoder that decodes the received signal according to the selected code to generate an estimate of the information (discussed in respect to other claims).

36. As per claim 33, a wireless station according to Claim 32, wherein said code selector circuit is operative to bias the selection of a code from the set of codes based on at least one of a measure of channel quality, a communications status report, a state of a communications transaction between the wireless station and the station that transmitted the signal, and a previously selected code (discussed in respect to other claims).

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37. As per claim 34, a wireless station according to Claim 33, wherein the measure of channel quality comprises at least one of an error indication, a CRC check result, an error rate estimate, and a signal to noise ratio (discussed in respect to other claims).

38. As per claim 35, a wireless station according to Claim 33, wherein the communications status report comprises an ARQ status message (discussed in respect to other claims).

39. As per claim 36, a wireless station according to Claim 31, wherein a respective code of the set of codes comprises a respective combination of a modulation code and a channel code (discussed in respect to other claims).

40. As per claim 37, a wireless station for processing a signal representing a first field and a second field, the first field coded according to a code selected from a set of codes and the second field indicating the code applied to the first field, the wireless station comprising: a code selector circuit that processes the signal to generate an estimate of the second field, and that is operative, responsive to a confidence in the generated estimate of the second field, to select the code applied to the first field based solely on the generated estimate of the second field or to select the code applied to the first field based on the generated estimate of the second field and respective likelihood metrics associated with decoding the received signal according to respective codes of the set of codes; and a variable decoder, responsive to said code selector circuit, that decodes the signal according to the selected code to produce an estimate of the first field (discussed in respect to other claims).

41. As per claim 38, a wireless station according to Claim 37, wherein said code selector circuit is operative to decode the received signal according to respective codes of the set of codes

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and to generate respective likelihood metrics for the respective decodings of the received signal according to the respective codes of the set of codes (discussed in respect to other claims).

42. As per claim 39, a wireless station according to Claim 38, wherein said code selector circuit is operative to decode the signal according to respective codes of the set of codes to an extent that is determined based on a confidence in the generated estimate of the second field (discussed in respect to other claims).

43. As per claim 40, a wireless station according to Claim 39, wherein said code selector circuit is operative to decode the signal according to respective codes of the set of codes to an extent that is determined based on prior communication between the wireless station and a station that transmitted the signal (discussed in respect to other claims).

44. As per claim 42, a wireless station according to Claim 40, wherein said code selector circuit is operative to bias a selection of a code from the set of codes based on prior communication between the wireless station and the station that transmitted the signal (discussed in respect to other claims).

45. As per claim 43, a wireless station according to Claim 42, wherein said code selector circuit is operative to bias a selection of a code from the set of codes based on at least one of a measure of channel quality, a communications status report transmitted between the wireless station and the station that transmitted the signal, an error indication, an error rate estimate, a state of a communications transaction between the first station and the second station, and a previously selected code (discussed in respect to other claims).



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46. As per claim 44, a wireless station according to Claim 47, wherein a respective code of the set of codes comprises a respective combination of a modulation code and a channel code (discussed in respect to other claims).

47. As per claim 45, a wireless station for processing a signal representing information coded according to a code selected from a set of codes, the wireless station comprising: receiver that receives the signal, that determines an extent to which to decode the received signal based on a prior communication between the wireless station and a station that transmitted the signal, that decodes the received signal according to respective codes of the set of codes to the determined extent to generate respective likelihood metrics associated with respective codes of the set of codes, that selects a code from the set of codes based on the respective likelihood metrics, and that decodes the received signal according to the selected code to generate an estimate of the information (discussed in respect to other claims).

48. As per claim 46, a wireless station according to Claim 45, wherein said receiver comprises: a code selector circuit that determines an extent to which to decode the received signal based on a prior communication between the wireless station and the station that transmitted the signal, that decodes the received signal according to respective codes of the set of codes to the determined extent to generate respective likelihood metrics associated with respective codes of the set of codes, and that selects a code from the set of codes based on the respective likelihood metrics; and a variable decoder, responsive to said code selector circuit, that decodes the received signal according to the selected code to generate an estimate of the information (discussed in respect to other claims).

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49. As per claim 51, a wireless station for processing a signal representing information coded according to a code selected from a set of codes, the wireless station comprising: means for receiving the signal; means for decoding the received signal according to respective codes of the set of codes to generate respective likelihood metrics associated with respective codes of the set of codes; means for selecting a code from the set of codes based on the respective likelihood metrics, wherein the selection of the code from the set of codes is biased based on a prior communication between the wireless station and a station that transmitted the signal; and means for decoding the received signal according to the selected code to generate an estimate of the information (discussed in respect to other claims).

50. As per claim 52, a wireless station according to Claim 51, wherein said means for selecting a code from the set of codes comprises means for biasing a selection of a code from the set of codes based on at least one of a measure of channel quality, a communications status report, a state of a communications transaction between the wireless station and the station that transmitted the signal, and a previously selected code (discussed in respect to other claims).

51. As per claim 53, a wireless station according to Claim 51, wherein the signal represents a first field and a second field, wherein the first field is coded according to a code selected from a set of codes and the second field indicates the code applied to the first field, and: wherein said means for selecting a code from the set of codes based on the respective likelihood metrics comprises: means for processing the received signal to generate an estimate of the second field; and means for selecting a code from the set of codes based on the respective likelihood metrics and the generated estimate of the second field; and wherein said means for decoding the received signal according to the selected code comprises means for decoding the received signal

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according to the selected code to generate an estimate of the first field (discussed in respect to other claims).

52. As per claim 54, a wireless station according to Claim 51, wherein a respective code of the set of codes comprises a respective combination of a modulation code and a channel code (discussed in respect to other claims).

53. As per claim 55, a wireless station for processing a signal representing a first field and a second field, wherein the first field is coded according to a code selected from a set of codes and the second field indicates the code applied to the first field, the wireless station comprising: means for receiving the signal; means for processing the received signal to generate an estimate of the second field; means, responsive to a confidence in the generated estimate of the second field, for identifying the code applied to the first field based solely on the generated estimate of the second field or for identifying the code applied to the first field based on the generated estimate of the second field and respective likelihood metrics associated with decoding the received signal according to respective codes of the set of codes; and means for decoding the received signal according to the identified code to produce an estimate of the first field (discussed in respect to other claims).

54. As per claim 56, a wireless station according to Claim 55, wherein said means for identifying the code applied to the first field based solely on the generated estimate of the second field or for identifying the code applied to the first field based on the generated estimate of the second field and respective likelihood metrics associated with decoding the received signal according to respective codes of the set of codes comprises: means for decoding the received signal according to respective codes of the set of codes; and means for generating respective

likelihood metrics for the respective decodings of the received signal according to the respective codes of the set of codes (discussed in respect to other claims)

55. As per claim 57, a wireless station according to Claim 56, wherein said means for decoding the received signal according to respective codes of the set of codes comprises means for decoding the received signal according to respective codes of the set of codes to an extent that is determined based on a confidence in the generated estimate of the second field (discussed in respect to other claims).

56. As per claim 58, a wireless station according to Claim 56, wherein said means for decoding the received signal according to respective codes of the set of codes comprises means for decoding the received signal according to respective codes of the set of codes to an extent that is determined based on prior communication between the wireless station and a station that transmitted the signal (discussed in respect to other claims)

57. As per claim 60, a wireless station according to Claim 55, wherein said means for identifying the code applied to the first field based solely on the generated estimate of the second field or for identifying the code applied to the first field based on the generated estimate of the second field and respective likelihood metrics associated with decoding the received signal according to respective codes of the set of codes comprises means for biasing a selection of a code from the set of codes based on prior communication between the wireless station and the station that transmitted the signal (discussed in respect to other claims).

58. As per claim 62, a wireless station according to Claim 55, wherein a respective code of the set of codes comprises a respective combination of a modulation code and a channel code (discussed in respect to other claims).

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59. As per claim 63, a wireless station for processing a signal representing information coded according to a code selected from a set of codes, the wireless station comprising: means for receiving the signal; means for determining an extent to which to decode the received signal based on a prior communication between the wireless station and a station that transmitted the signal; means for decoding the received signal according to respective codes of the set of codes to the determined extent to generate respective likelihood metrics associated with respective codes of the set of codes; means for selecting a code from the set of codes based on the respective likelihood metrics; and means for decoding the received signal according to the selected code to generate an estimate of the information (discussed in respect to other claims).

60. As per claim 64, a wireless station according to Claim 63, wherein means for determining an extent comprises means for determining the extent to which to decode the received signal based on a least one of a measure of channel quality, a communications status report, a state of a communications transaction between the wireless station and the station that transmitted the signal (discussed in respect to other claims), and an extent to which a previously received signal was decoded (may not be in Burshtein but it is unclear as explained under the 112 rejection).

61. As per claim 65, a wireless station according to Claim 63, wherein the signal represents a first field and a second field, wherein the first field is coded according to a code selected from a set of codes and the second field indicates the code applied to the first field, and: wherein said means for determining an extent to which to decode the received signal comprises: means for processing the received signal to generate an estimate of the second field; and means for determining the extent to which to decode the received signal based on a confidence in the generated estimate of the second field; and wherein said means for decoding the received signal

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according to the selected code to generate an estimate of the information comprises means for decoding the received signal according to the selected code to generate an estimate of the first field (discussed in respect to other claims).

*Allowable Subject Matter*

62. Claims 16, 18, 27, 28, 29, 41, 47, 48, 49, 50, 61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The art of record does not suggest the respective claim combinations together and nor would the respective claim combinations be obvious with the underlined portions:

63. As per claim 16, a method according to Claim 15, wherein said step of decoding the received signal according to respective codes of the set of codes to an extent that is determined based on prior communication comprises the step of decoding the received signal according to respective codes of the set of codes to an extent that is determined based on at least one of a measure of channel quality, a communications status report transmitted between the first station and a second station that transmitted the signal, an error indication, an error rate estimate, a state of a communications transaction between the first station and the second station (discussed above up to here), and an extent to which a previously received signal was decoded.

64. As per claim 18, a method according to Claim 17, wherein said step of biasing a selection of a code from the set of codes comprises the step of biasing the selection of a code from the set of codes based on at least one of a measure of channel quality, a communications status report transmitted between the first station and a second station that transmitted the signal, an error

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indication, an error rate estimate, a state of a communications transaction between the first station and the second station (discussed above), and *an extent to which a previously received signal was decoded.*

65. As per claim 27, a method according to Claim 21, wherein said step of determining an extent to which to decode the received signal is preceded by the steps of receiving a first signal; and decoding the received first signal according to respective codes of the set of codes to a first extent to generate respective first likelihood metrics associated with respective codes of the set of codes; wherein said step of receiving a signal comprises the step of receiving a second signal; and wherein said step of determining an extent to which to decode the received signal comprises the step of determining an second extent to which to decode the received second signal based on the first *extent to which the received first signal was decoded.*

66. (object since dependent claim 27 has allowable subject matter) As per claim 28, a method according to Claim 27: wherein said step of decoding the received first signal is followed by the steps of selecting a first code of the set of codes based on the respective first likelihood metrics; decoding the received first signal according to the selected first code to generate an estimate of information represented by the first signal; and determining validity of the generated estimate of the information represented by the first signal; and wherein said step of determining a second extent to which to decode the received second signal based on the first extent to which the received first signal was decoded comprises the step of determining the second extent to which to decode the received second signal based on the first extent to which the received first signal was decoded and the determined validity of the generated estimate of the information represented by the first signal.

67. (object since dependent claim 27 has allowable subject matter) As per claim 29, a method according to Claim 28, wherein said step of determining validity of the generated estimate of the information represented by the first signal comprises the step of performing a CRC check on the generated estimate of the information represented by the first signal.

68. As per claim 41, a wireless station according to Claim 40, wherein said code selector circuit is operative to decode the signal according to respective codes of the set of codes to an extent that is determined based on at least one of a measure of channel quality, a communications status report transmitted between the wireless station and the station that transmitted the signal, an error indication, an error rate estimate, a state of a communications transaction between the wireless station and the station that transmitted the signal, and an extent to which a previously received signal was decoded.

69. As per claim 47, a wireless station according to Claim 46, wherein said code selector circuit is operative to determine the extent to which to decode the received signal based on at least one of a measure of channel quality, a communications status report transmitted between the wireless station and the station that transmitted the signal, an error indication, an error rate estimate, a state of a communications transaction between the wireless station and the station that transmitted the signal, and an extent to which a previously received signal was decoded.

70. (object since dependent claim 47 has allowable subject matter) As per claim 48, a wireless station according to Claim 47, wherein the measure of channel quality comprises at least one of an error indication, a CRC check result, an error rate estimate, and a signal to noise ratio estimate.



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71. (object since dependent claim 47 has allowable subject matter) As per claim 49, a wireless station according to Claim 47, wherein the communications status report comprises an ARQ status message.

72. As per claim 50, a wireless station according to Claim 42, wherein the signal represents a first field and a second field, wherein the first field is coded according to a code selected from a set of codes and the second field indicates the code applied to the first field, and wherein said code selector circuit is operative to process the received signal to generate an estimate of the second field and to determining the extent to which to decode the received signal based on a confidence in the generated estimate of the second field (discussed in respect to other claims). As per claim 59, a wireless station according to Claim 58, wherein said means for decoding the received signal according to respective codes of the set of codes to an extent that is determined based on prior communication comprises means for decoding the received signal according to respective codes of the set of codes to an extent that is determined based on at least one of a measure of channel quality, a communications status report transmitted between the wireless station and the station that transmitted the signal, an error indication, an error rate estimate, a state of a communications transaction between the wireless station and the station that transmitted the signal, and an extent to which a previously received signal was decoded.

73. As per claim 61, a wireless station according to Claim 60, wherein said means for biasing a selection of a code from the set of codes comprises means for biasing the selection of a code from the set of codes based on at least one of a measure of channel quality, a communications status report transmitted between the wireless station and the station that transmitted the signal, an error indication, an error rate estimate, a state of a communications transaction between the

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wireless station and the station that transmitted the signal, and an extent to which a previously received signal was decoded.

**Conclusion**

74. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: USPN 5230003


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (703) 305-0194. The examiner can normally be reached on Monday through Thursday after 8AM to after 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (703) 305-4378. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

PK

September 19, 2002

  
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